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No. 2775.

IN THE
United States
Circuit Court of Appeals
FOR THE NINTH CIRCUIT.

Joseph E. Ward,
Appellant,
vs.
Rogers Brothers Company, a cor-
poration,
Appellee.

Filed
BRIEF OF APPELLEE.

HARTLEY SHAW,
Solicitor for Appellee.

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STATEMENT OF THE CASE.

This is a suit in equity brought by appellant, Joseph E. Ward, to enjoin the defendant, Rogers Brothers Company, from infringing a patent issued to Ward, the plaintiff, for a process of oiling roads and for an accounting of the profits made by the defendant by the use of this process. The defendant in its answer sets up two defenses; first, that it is not infringing the patent in question, and second, that said patent is void by reason of anticipation. Under the latter heading two prior uses of the process were set up, one by Ellis Tomer and the other by C. W. Hatfield. From

examination of the record filed in this court it would appear that the defense of anticipation was not properly pleaded for lack of any dates of use and residences of the users, and that the use by Hatfield was not mentioned in the answer at all. But in fact the defendant filed an amended answer in which both of these anticipations were properly pleaded. For some reason this amended answer is not in the printed record, but only the original and superseded answer has been inserted therein. On this matter being called to the attention of counsel for appellant, he suggested that it be mentioned in this brief and stated that he would concede that these defenses were properly pleaded.

The patent in suit was issued to Joseph E. Ward May 2nd, 1911, on an application filed March 14th, 1910, and the anticipation by Tomer is pleaded to have occurred in March, 1908, and that of Hatfield in 1903. Plaintiff made no effort to carry his invention back beyond the date of either of these uses, and hence if either of them is sufficiently established by the evidence, there can be no question that his patent is void.

The evidence in the case covered the subject of prior state of art and also the defenses of non-infringement and prior use. There was no attempt to show any profits made by the defendant. As I view it, the evidence shows clearly that defendant is not infringing plaintiff's patent and also that plaintiff's alleged invention was anticipated by Tomer. I prefer to discuss the evidence in detail in connection with the several points made, which are as follows:

POINTS.

I.

The Scope of a Patent is Strictly Limited by the Claims.

Nothing Can be Regarded as an Infringement Which Does Not Fall Within the Meaning of the Terms Used Therein.

The above proposition is so well established that little time need be spent thereon. The following authorities support it:

1 Hopkins on Patents, pp. 188, 196;

McClain v. Ortmayer, 141 U. S. 419, 423;

Keystone Bridge Co. v. Phoenix Iron Co., 95 U. S. 274, 278;

Coupe v. Royer, 155 U. S. 565, 576;

Wright v. Yuengling, 155 U. S. 47, 52;

Paper Bag Patent Case, 210 U. S. 418, 419;

Lorraine Development Co. v. General Elec. Co., 198 Fed. 100, 106;

Evans v. Hall Printing Press Co., 223 Fed. 541;

American etc. Co. v. Coe Mfg. Co., 212 Fed.

720.

In McClain v. Ortmayer, *supra*, the court said:

“While the patentee may have been unfortunate in the language he has chosen to express his actual invention, and may have been entitled to a broader claim, we are not at liberty, without running counter to the entire current of authority in this court, to construe such claims to include more than their language fairly imports.” P. 423.

“If the language of the specification and claim shows clearly what he desired to secure as a mo-

nopoly, nothing can be held to be an infringement which does not fall within the terms the patentee has himself chosen to express his invention.” P. 425.

In *Coupe v. Royer*, *supra*, a patent in which the claim was for a machine in a vertical position was held not infringed by the use of a similar device in a horizontal position.

In *Wright v. Yuengling*, *supra*, the omission of a single part of a machine which was declared by the claim to be essential was held sufficient to avoid the charge of infringement.

In *Lorraine Development Co. v. General Elec. Co.*, *supra*, the rule was applied, although it was conceded that the defendant was within the spirit of the invention.

In the case of *American etc. Co. v. Coe Mfg. Co.*, *supra*, it was held that a claim for a machine which required a certain movement to be made automatically, was not infringed by a similar machine in which this same movement was made by the operator.

II.

The Scope of a Patent May be Further Limited by Reference to the Specification of the Patent, Including Both Description and Drawings.

1 Hopkins on Patents, p. 197;

McClain v. Ortmayer, 141 U. S. 419, 424;

Snow v. Lakeshore etc. R. Co., 121 U. S. 617, 629;

Van Ness v. Layne, 213 Fed. 804, 808.

In the case of *McClain v. Ortmayer, supra*, the court said:

“The claim is the measure of his right to relief, and while the specification may be referred to to limit the claim, it can never be made available to expand it.”

In *Snow v. Lakeshore etc. R. Co., supra*, the rule was applied and the language of the claim was limited by reference to the specification and drawings.

In *Van Ness v. Layne, supra*, the claim was limited by reference to the specification so as to enable the court to uphold the patent, the claim being so broad in its language that if not so limited it would be void.

III.

The Omission of Any Step of a Process as Patented Defeats the Charge of Infringement Even Though that Step be Not Essential to the Success of the Invention.

A process is in principle, so far as this point is concerned, essentially the same as a mechanical combination. The rule as to a combination patent is that the claim of a combination is not infringed if any of the material parts of the combination are omitted, and the courts cannot declare anything claimed by the patentee as a part of his combination to be immaterial.

1 *Hopkins on Patents*, pp. 337, 342;

Water Meter Co. v. Desper, 101 U. S. 332, 335,

337;

Fay v. Cordesman, 109 U. S. 408, 420;

Wright v. Yuengling, 155 U. S. 47, 52;

Hubbell v. U. S., 179 U. S. 77, 82;
Lorraine Development Co. v. General Elec. Co.,
198 Fed. 100, 113;
Hall etc. Co. v. Teabout, 215 Fed. 109;
Evans v. Hall Printing Press Co., 223 Fed. 539,
541.

In Hubbell v. U. S., *supra*, it was held to be immaterial that two devices produce the same result, if they are not alike.

In Fay v. Cordesman, *supra*, the court said:

“If it be a claim to a combination and be restricted to specified elements, all must be regarded as material, leaving open only the question whether an omitted part is supplied by an equivalent device or instrumentality.”

In Wright v. Yuengling, *supra*, the court said:

“Now while this semi-circular connecting piece may be an immaterial feature of the Wright invention and the purpose for which it is employed accomplished, though less perfectly, by the extension of the guiding cylinder in the manner indicated in defendant’s device, yet the patentee having described it in the specification and declared it to be an essential feature of his invention and having made it an element of these two claims, is not now at liberty to say that it is immaterial, or that a device which dispenses with it is an infringement, though it accomplish the same purpose in perhaps an equally effective manner.”

The same rule has been expressly applied to a process patent.

I Hopkins on Patents, p. 352;

Goodyear etc. Co. v. Davis, 102 U. S. 222, 230;

Royer v. Coupe, 146 U. S. 524, 530, 532;

U. S. Glass Co. v. Atlas Glass Co., 90 Fed. 724.

In Goodyear etc. Co. v. Davis, *supra*, the court said:

“The same result may be reached by different processes, each of them patentable, and one process is not infringed by the use of any number of its stages less than all of them.”

IV.

Construction of the Patent in Suit.

Bearing in mind the foregoing legal principles, let us examine the patent in suit to determine its proper construction. It is set forth at pages 52 to 58 of the printed record. It contains two claims which may each be analyzed into several steps or elements.

The first claim calls for the following steps in the process:

1st. Atomizing oil in contact with air;

2nd. In such manner that the oil tends to remain suspended in the air for an appreciable time;

3rd. Bringing the atomized oil and air into contact with a porous road surface;

4th. Causing the oil to penetrate the road surface while still in the atomized condition;

5th. Causing atomized oil to be deposited on the material of the road surface while such material is agitated and partly suspended.

The second claim calls for the following steps:

- 1st. Atomizing oil in contact with air;
- 2nd. Maintaining the oil in atomized condition and suspended in the air an appreciable time;
- 3rd. Bringing this oil in contact with a porous road surface;
- 4th. Depositing atomized oil on the road surface in a thin layer of atomized oil particles;
- 5th. Maintaining the maximum surface of exposure of the oil to contact with air and road material for hardening the oil and binding it to the road material by oxidation.

(a) THE PATENT REQUIRES AS AN ESSENTIAL STEP IN THE PROCESS OF OILING A ROAD THAT THE OIL BE ATOMIZED OR REDUCED TO A MIST AND APPLIED TO THE ROAD SURFACE IN THAT CONDITION.

The difference between the two claims above mentioned is very little and of no moment to the consideration of this point. They both require as essential parts of the process that the oil be atomized in contact with air, and that it be applied in this atomized condition to a porous road surface. These provisions of the claims are of themselves entirely clear. There is no occasion to pare them down by construction or by any expert evidence as to what the patent means. Under the authorities already cited the things so specified by the patent cannot be ignored or held by the courts to be immaterial.

The word "atomize" has been thus defined by lexicographers:

“To reduce to atoms or to fine spray.” Webster’s Dictionary.

“To reduce to atoms or atom like particles; pulverize; spray.” Standard Dictionary.

But in this case it is not really necessary to resort to such authorities, for plaintiff has himself furnished us a definition of the word in his patent, where he says:

“The oil is forced by the pump 8 through the atomizing nozzles under sufficient pressure to insure atomization, and the openings for the atomizing nozzles are sufficiently contracted to insure that as the oil issues under such pressure it will on encountering the air be broken up into such fine particles that it tends to remain suspended in the air for an appreciable length of time forming a mist or mixture of air and minute particles of oil. This operation of finely dividing the oil to form a mixture with air is well understood under the term ‘atomization’ and the function of the operation in my process is to render the oil capable of permeation or diffusion into and between the solid particles and surface of the roadway, the mixture of air and atomized oil having in this respect the properties of a gas as distinct from those of a liquid or solid.” [Tr. p. 57, lines 23-43.]

This passage and others to be quoted from the specification makes certain what is meant in the claims by the word “atomize,” if any doubt could exist as to the meaning as to the word itself. The inventor intended that there should be a cloud or mist of oil produced in carrying out his process. Oil was not to be applied to

the road surface in an unbroken stream or sheet, but in a finely divided condition so that it would surround and coat each particle of the road surface and go into and through the pores thereof for that purpose.

Not only is it clear from the patent itself that it does not cover the application of oil in a sheet or film, but it appears from the evidence that in view of the prior state of the art, a patent covering such manner of application could not have been obtained. Evidence on this subject may always be introduced in a patent case without any pleading in regard thereto.

Brown v. Piper, 91 U. S. 37, 41.

A patent will be so construed with reference to the prior state of the art as not to include anything disclosed by prior patents or devices previously in public use or known to the public.

9 Encyc. of U. S. Sup. Ct. Rep. 224;

Hubbell v. U. S., 179 U. S. 77, 80.

The evidence shows that in 1900, and for several years thereafter, a device known as the Studebaker sprinkler was in common use for applying oil to roads. This was the same device used for water sprinkling, and discharged the oil by the pressure of gravity from the tank in which it was carried. It consisted of a cylindrical head connected with the oil supply. In this head was a transverse slot, the width of which could be reduced so as to regulate the quantity of oil supplied. This slot was carried about two feet above the ground and discharged the oil in a fan-shaped sheet which spread out until it hit the ground. If the air

was calm the oil sheet would hit the ground without a break, but if wind was blowing it would break up before reaching the ground. [See testimony of Burns, Tr. p. 25; Doran, pp. 38, 39; Brawner, p. 40.]

About the same time another machine was constructed and used by which the oil was discharged on the road through a series of pipes, which were flattened at the ends so as to discharge the oil in a fan shape. [Doran, Tr. p. 38.]

Another machine used about 1906 or 1907 discharged the oil from a pipe into a pan so that it ran off the edge of the pan and fell on the road in a thin sheet. Still another machine used about the same time discharged the oil from several pipes on a board and allowed it to run over the edge of the board in a solid sheet, and so fall to the road. [Joyner, Tr. p. 32.]

All of these machines were alike in one respect, namely, they discharged the oil upon the road in the form of a thin sheet. In this respect, as will appear later, they resemble defendant's machine. Especial attention is called to them here because the plaintiff, Ward, seems to claim in his testimony that the air coming in contact with the fan-shaped sheet of oil on defendant's machine as it moves forward, becomes mixed with the oil and thus in effect atomizes it. [Tr. pp. 15, 16.] The same claim was made by plaintiff's expert, Bailey. [Tr. p. 21.]

Of course the air would have the same operation on these films or sheets of oil which were discharged by the above mentioned machines in use long before the plaintiff's invention, as it would on the sheet of oil

discharged by the defendant's machine, except that the pressure being less in the former machines the oil would not be forced to the ground with so much velocity, and hence there would be more time for the full effect of the air to be obtained. Hence if this were the kind of atomization meant by the patent, it would be void for lack of novelty. The court is therefore required to give it the construction which its own language sets forth in order to give it life as against these earlier processes; and so doing to limit the atomization to that which produces a cloud or mist of oil.

(b) THE PATENT REQUIRES THAT THE ATOMIZED OIL BE SUSPENDED IN THE AIR.

The second claim requires that this be done for an appreciable time, and the first claim requires that an effort be made to accomplish the same thing.

At the trial, plaintiff and his expert Bailey propounded a theory regarding the meaning of the term "suspended in the air," which is certainly novel and illustrates the length to which alleged experts will often go in attempting to bolster up a case in support of which they are hired. They claimed, in substance, that "suspended in the air" is equivalent to "surrounded by air," regardless of the velocity of the oil toward the ground. As the plaintiff said, if you drop a brick from your hand the brick would be suspended in the air [Tr. p. 19]; a statement which to the ordinary man would indicate that some miracle had been performed. Bailey adhered to the same theory, saying that a cannon ball or bullet moving in the air would

be suspended therein. Were it not that the same point is made in appellant's brief, further comment would seem superfluous. In the brief it is claimed that what the patent really calls for is a "chemical suspension" of oil in air, by which it is meant that there is air around the oil, and that this may exist although the oil is forcibly projected down against the road. But this phrase used by appellant involves a contradiction. There is no such thing as a chemical suspension. Suspension does not involve any change in the identity of the material, and hence is a physical as distinguished from a chemical process.

Again the dictionary may be consulted with profit, for even the patentee of an invention is not at liberty to alter the meaning of language in order to maintain his suit.

"Suspend: To sustain in the body of a fluid, as fine particles or a body of nearly the same specific gravity; as, fine dust suspended in the air." Standard Dictionary.

"Suspend: To attach to something above; to cause to depend; to hang; as, to suspend a ball by a thread; hence to hold, support, or sustain as if by hanging; as, dust suspended in the air; oars suspended over the water." Webster's Dictionary.

Definitions having no relation to this subject are omitted in each case.

The plaintiff has also in his patent furnished us with several illustrations of the meaning of the expression "suspended in air," which are quite at variance with the flight of fancy he attempted as a witness. Thus he says in the patent:

“The process consists essentially in applying the oil to the road surface in a condition of suspension in the air in such manner that the oil *as it settles into contact* with the road surface permeates the road surface by reason of its fine state of division.” [Tr. p. 56, lines 50, 55.]

“By reducing the oil to an atomized condition and suspending it in the air it is caused to enter the porous surface of the roadway and to penetrate between the dust particles by a process of diffusion; and when it is deposited upon such surface or particles it is in the final condition of distribution desired and does not require further mechanical stirring or pressure except to compact the particles together.” [Tr. p. 57, lines 54, 64.]

“When the oil is suspended in the air in atomized condition, it will part with the greater portion of its most volatile constituents and lessen the time of evaporation after the oil is deposited on the particles of the road surface.” [Tr. p. 57, lines 87, 93.]

“It will on encountering the air be broken up into such fine particles that it tends to remain suspended in the air for an appreciable length of time *forming a mist* or mixture of air and minute particles of oil.” [Tr. p. 57, lines 27-33.] (Italics are mine.)

Appellant further claims in his brief that the patent requires the oil to be applied to the road surface in a condition of suspension in the air and that therefore “suspension” as used in the patent must have some extraordinary meaning, but this is not necessary. The

oil being in suspension in the air “settles into contact with the road surface,” as the patent expresses it, just as a fog or mist of water would do. It remains suspended in the air until it actually reaches its resting place on the road surface. The patent nowhere speaks of it as being suspended after this time; instead, it uses the phrase “exposure to the air” as expressing the situation, whenever there is occasion to mention it, both in the specification [Tr. p. 57, lines 83, 95-98] and in the second claim. [Tr. p. 58, line 18.] The third quotation above made from the patent clearly indicates that the period of suspension in the air occurs before the oil is deposited on the road.

Appellant’s construction of the phrase “suspended in the air,” besides doing violence to the meaning of the language, also ignores the effect of the words “for an appreciable time,” which are found in the specification [Tr. p. 57, line 30] and in both claims. [Tr. p. 58, lines 2 to 13.] In his brief he says that “Mr. Ward’s conception was to force the oil against and into the particles of the road surface” (p. 9) and that “the forcible discharge of the oil in an atomized or broken up state directly downward on to the road surface and into the same” is an essential part of Ward’s discovery (p. 15). If Ward had any such conception or made any such discovery, he signally failed to disclose it in his patent. Appellant’s brief does not explain how the oil can be maintained suspended in the air an appreciable time and yet forced against and into the road. Neither does it inform us why, if Ward’s conception was as stated, he only made claim in his patent for

“bringing the oil into contact with” the road, and causing the oil “to be deposited on” the road. It is very clear that when Ward’s patent was issued he had no such conception as is now claimed for him; but having since found that the atomization and fog process which he claimed is of no practical value, he is now trying to stretch his patent to cover something else, to-wit, the application to the oil of pressure or force in addition to that of gravity.

(c) APPLICATION OF OIL BY PRESSURE IS NOT COVERED BY PLAINTIFF’S PATENT.

The application of oil by pressure or by forcibly projecting it down against the road is not covered by this patent. Plaintiff claimed in his testimony [Tr. pp. 15, 17], as well as now in his brief, that it is so covered; but pressure is not mentioned in either of the claims, which necessarily limit the scope of the patent according to the authorities heretofore cited. In the specification the only reference to pressure is that it shall be sufficient to insure atomization. [Tr. p. 57, line 24.] Anything more than this would, of course, defeat the requirements of the claims that the oil remain, or tend to remain, suspended in the air an appreciable time; and also the statement in the specification that the process consists “essentially” in applying the oil so that it will “settle” into contact with the road. [Tr. p. 56, lines 50-54.] And Fig. 1 of the drawings attached to the patent [Tr. p. 55] shows a spray of oil projected in a horizontal direction, which precludes the idea that the oil was to strike the road forcibly.

Fig. 2, to which appellant refers in support of his argument in this matter, is merely a rear elevation of the oil sprays, and it does not show whether the oil is being projected in a horizontal or vertical direction, nor whether it is being forced downward or is merely settling downward from its own weight.

In any case, there would be nothing novel about applying the oil by pressure. Pressure has been used as a means of applying all sorts of liquids to all sorts of purposes for so long a period that no invention could be involved in using it to apply oil to a road. Moreover, pressure has been used in applying oil to roads long before Ward's invention. All of the older machines described in the testimony operated by pressure. This pressure was, it is true, due to gravity, but the source of the pressure cannot affect the fact that pressure was used to force the oil through the slots in those machines. With a full tank, no doubt, the pressure was considerable and it forced the oil out in a thin sheet, but the trouble with those machines was that the pressure became less as the tank emptied, and hence they did not give a uniform application of oil. The application of oil under the pressure of a pump remedies this defect, because the pressure can be kept uniform and the application of oil to the road made uniform. [See testimony of Burns, Tr. p. 25; Rogers, Tr. p. 30.] This is all the virtue there is in the process appellant now claims and it is not covered by the patent and could not be.

The court will dismiss a bill when satisfied that invention does not exist, after the prior state of the art

has been shown upon the trial, even if want of invention has not been pleaded.

1 Hopkins on Patents, p. 416.

A patent may be declared void for want of novelty, though no such defense was set up in the answer.

Dunbar v. Myers, 98 U. S. 187;

Richards v. Chase Elec. Co., 158 U. S. 301.

To apply an old process to old materials is not invention, nor is the resulting product an invention.

1 Hopkins on Patents, pp. 229, 234;

King v. Gallum, 109 U. S. 99;

Leggett v. Standard Oil Co., 149 U. S. 287, 295.

The application of an old process to a new subject for the purpose of producing the same result, is not the exercise of the inventive faculty.

Brown v. Piper, 91 U. S. 37, 41.

Hence if appellant's patent is now to rest upon the proposition that his discovery was the application of oil under pressure, it must be declared void.

(d) A POROUS ROAD SURFACE IS REQUIRED BY APPELLANT'S PATENT.

This is required by both claims and was considered by plaintiff important when he applied for his patent. By means of this porous surface he proposed to accomplish the object of mixing the oil with the material of the road. The oil in a finely divided or atomized condition was to settle down on this surface and permeate its porosities and penetrate between its particles

by reason of the fine state of division of the oil, thereby both mixing the oil with the road material and preventing the formation of pools, etc. [See specification, Tr. p. 56, lines 25-30, 50-55; p. 57, lines 55-60.] If the surface of the road were composed of hard or solid material, neither of these results could be produced, and the process would not be successful. The first statement contained in the specification is that plaintiff has invented a process for making roadways by applying oil to sand, gravel or earth. This shows what he meant by a porous road surface.

Another step in the first claim, upon which claim appellant now seems to rest his case in his brief, is “the atomized oil to be deposited on the material of the road surface while said material is agitated and partly suspended.” [Tr. p. 58, lines 5-10.] Appellant claims in his brief that this clause of the patent means that the oil is to be agitated and partly suspended, but the language of the patent, which has just been quoted, will not fairly bear such construction. The word “material” is twice used. The first time it is the material of the road surface, and the second time, just a few words later, it is referred to as “said material.” This cannot mean anything else than the material which has just been described, namely, that of the road surface. Practically the same phrase, “material of the roadway,” is used in claim two, and “road material” is spoken of in one or two other places as distinguished from the oil to be applied thereto. The word “material” is nowhere in the patent applied to the oil. This provision of the patent is a further ex-

tension of the idea of porosity of the road surface, and requires a road covered with a layer of loose or dusty material which will be easily stirred up by the action of the oil in dropping on it. This step of the process is clearly called for by the claim and must be regarded as a material part of it. It tends further to show, what is clearly evident from a reading of the whole specification, that the plaintiff, when he made his application for patent, had in mind only the use of oil on dusty roads for the purpose of laying the dust and making a compact surface therefrom. As the patent says, "The process is specially applicable in connection with a roadway whereon there is a considerable deposit of dust" [Tr. p. 56, lines 42-44], and the process "leaves on the roadway a deposit of oil substantially covering each and every particle of dust and extending appreciably into the loose or porous dust on the surface of the roadway." [Tr. p. 57, lines 65-69.]

(e) THE UTILITY AND USE OF THE PROCESS.

Appellant claims in his brief that the discovery of the Ward process has resulted in a great saving in the amount of oil used in making a road, amounting to at least one-half thereof, and that this fact is undisputed. In this he is mistaken. The fact is not proven in this case at all and hence there was no reason to dispute it. The only witness who gave testimony approaching this subject was the plaintiff himself, who merely said that before his process was introduced a certain amount of oil was generally used in road building, and afterwards a certain smaller

amount has been used. He did not say that this difference was due to the use of his process. It may have been due to a dozen other things. As a matter of fact it was due to the practical abandonment of the use of oiled dirt roads and the increasing use of macadam, and to the discovery by engineers that in rock macadam they had been using too much oil to produce a stable road. The reasons just mentioned are of course not in evidence, but there is nothing in plaintiff's evidence to exclude them or any other reasons. One of the first things a student of logic learns is that the argument *post hoc ergo propter hoc* is fallacious; but it is the very argument made for appellant on this point. The court was quite justified in ignoring this testimony of plaintiff and giving no weight to the alleged saving in oil. It is also stated in the brief that the plaintiff's testimony on this matter is corroborated, but I have been unable to find that any other witness so much as mentioned it. In this connection the brief also states that defendant sometimes uses as little as one-eighth of a gallon of oil per square yard, and refers to the testimony of George S. Benson as proving that fact. This indicates an entire misapprehension of his testimony. He was merely describing the appearance of the Monarch machine when applying that quantity of oil, but he did not say who had made such an application or that it was ever done in actual road building work.

As to the practical use of Ward's process, the evidence indicates that it is not much regarded. Appellant seeks to draw from Rogers' statement that after

the use of Ward's first pressure machine every one changed to pressure machines, an inference that this change was a tribute to Ward's inventive genius. But Rogers did not say the operation of Ward's machine was the sole cause of the change. He said that and the fact that a half dozen machines came out in the east and were being extensively advertised and put on the market brought about the change. [Tr. p. 31.] Rogers also said that while engineers did specify pressure machines, he never knew or heard of one specifying the use of an atomizing process, which is the main and essential feature of Ward's process. [Tr. p. 30.] The necessary inference from this is that what appealed to engineers about Ward's machine was not its patented process of operation, but the fact that by it the pressure under which the oil was applied could be controlled and regulated. As already shown, this feature of the machine is not a part of the patented process at all, and hence the wide use of machines having such a method of operation constitutes no recognition or adoption of Ward's patent.

The licenses which the plaintiff has issued do not amount to anything as showing general recognition or adoption of his process. He makes an oiling machine, which, as already noted, was approved because of its control of the pressure, and hence came into use. With every one of these machines sold he issues a license for use of the process, without extra charge. In other words, he induces a man to buy a machine and then thrusts upon him a license for the process. [Tr. p. 14.] These licenses constitute the bulk of the licenses

issued by him, and are all to users in California. In addition to them he has issued one general license to use the process in California, for which he got \$800.00, and an unstated number of licenses in Oregon, British Columbia and Washington, for which altogether he got \$1500.00. In all the rest of the United States he has issued no licenses whatever. [Tr. p. 16.] In appellant's brief it is stated that the process has also been licensed in New York, North Carolina and Texas, but this is in error. Plaintiff merely said that *he* had built roads by the process in those states [Tr. p. 14] by which he probably meant roads built for demonstration purposes in the effort to introduce his process. Thus in four and one-half years from the date of the patent to the trial, plaintiff collected the munificent sum of \$2300.00 from licenses, and succeeded in getting some users in only three of the United States and one foreign province to try his process. Considering the tremendous amount of road building that has been done in that time, even in California alone, where the state has spent nearly eighteen millions for roads, and the counties and cities many millions more, this is a trifling showing indeed.

As to these licenses, Los Angeles county has licenses for the use of two machines only, the parts of which the county bought from plaintiff, but it is using other machines which are not licensed. [Tr. pp. 16, 17, plaintiff's testimony.] These unlicensed machines are like that of defendant. [Joyner, Tr. p. 32.] Plaintiff wanted to give the county a license to use these machines but the county refused to accept it. [Joyner,

Tr. p. 33.] The state of California has licenses for only two machines, which of course cannot do a large percentage of its work in view of its eighteen million bond issue for good roads.

It is, of course, not proved that the machines which plaintiff sells do in fact operate by his process. Brawner, who had seen one of the machines operated, said that it did not atomize the oil, and he had never seen a machine that did. [Tr. pp. 41, 42.] But if they did use the process many of them have gone out of use. The city of Los Angeles discarded one because it scattered oil around too much through the air. [Higley, Tr. p. 35.] Benson owns one which he had not used for two or three years. [Tr. p. 45.]

V.

The Defendant is Not Infringing the Plaintiff's Patent.

The question next arising is whether the defendant's process of road oiling is an infringement of plaintiff's patent, properly construed. The trial court found that it was not. The evidence on the subject, viewing it in the light most favorable for appellant, is conflicting, and was taken in the presence of the trial court. Under these circumstances the trial judge's finding is presumptively correct, and unless an obvious error has occurred in the application of the law, or a serious mistake has been made in the consideration of the evidence, such finding will not be disturbed on appeal.

Thorndyke v. Alaska etc. Co., 164 Fed. 657, 665;
Harper v. Taylor, 193 Fed. 944, 946;
De Laval etc. Co. v. Iowa etc. Co., 194 Fed.
423;
U. S. v. Marshall, 210 Fed. 595.

(a) THE DEFENDANT DOES NOT ATOMIZE THE OIL.

The first and most important of the elements in plaintiff's patented process is atomization. Does the defendant's machine atomize the oil? It has a row of nozzles six to eight inches above the ground, in each of which is a slot about one-eighth of an inch wide by one inch long, through which the oil is forced from a tank by the pressure of a pump, the usual pressure being twenty-five to thirty pounds. These nozzles are set so close to the ground in order to get an unbroken sheet of oil to hit the road, so the application of the oil will be uniform. [See testimony of Rogers, Tr. pp. 29, 30, 31.] The defendant produced a number of witnesses who had seen the machine work and whose testimony in brief is as follows:

George A. Rogers, general manager of defendant, says the oil is discharged in a fan-shaped sheet, practically solid, and continuing solid until it strikes the road surface; that the defendant's effort is to get a uniform application of oil of a certain quantity per square yard. [Tr. p. 29.]

Frank H. Joyner, who is road commissioner of the county of Los Angeles and had many years experience in road building, says that oil is discharged from defendant's machine in a fan-shaped stream and struck the road in a solid sheet, or practically a solid sheet; that it comes out and gets thinner as it approaches the earth, and when working satisfactorily strikes the road in a solid sheet. That the oil between leaving the machine and hitting the ground did not have any finely

divided particles or cloud or mist around it, and did not appear to be atomizing the oil or to maintain any of the oil suspended in the air that he could see; that there is always some cloud or mist of oil or smoke or steam that arises in back of those machines when they are running; it might be finely divided oil and the cause of it is that when the hot oil comes out in the air and strikes down on the cold stone of the road a sort of steam or fog will come up. The oil does not divide into fine particles until it strikes the road, but frequently the road is watered and there you will see the steam. [Tr. p. 33.]

William Higley, who works for the city of Los Angeles as an inspector of road oiling, has seen the Monarch machine which the defendant uses, and states that with these machines the oil comes out in a steady sheet from the nozzle; when it hits the ground it is a solid sheet of oil, fan-shape like, and he has never seen any sign of oil being atomized around this machine while it was working or any cloud or mist of oil about it. [Tr. pp. 34-5.]

C. R. Brawner, who is a civil engineer and has had extensive experience in road work, testified that he has seen defendant's machine in operation and that the oil is one solid sheet until it hits the ground; that the oil comes out from the nozzle through the opening and gradually spreads out in width and cross-wise of the road, thinning the sheet as it hits the ground. If you were to take a cross-section of the sheet of oil there would be thickness to it, probably two or three-hun-

dredths of an inch and probably a foot wide. Under normal conditions of working it will almost inevitably go in a solid sheet; when the wind blows some particles would blow back a little or whip off in needle form, but not in a spray or atomized condition. [Tr. pp. 41-2.]

H. H. Fillmore, who is employed by the county of Los Angeles as resident engineer in charge of road work, has seen defendant's machine in operation and he states that the outlet was a slot and the oil was the shape of the slot and flowed out under pressure in a solid sheet. It was thicker than a sheet of paper when it struck the earth; where it struck the earth it was still a sheet of oil, about six inches wide and thicker than a sheet of paper; and that between the time it leaves the opening in the machine and the time it hits the ground, it is in a fluid state, flowing under pressure and continuous, but not divided up. [Tr. pp. 42-3.] Appellant in his brief refers to the testimony of a witness, E. B. Gilmore, but probably means this witness, H. H. Fillmore, and quotes him as saying that the appearance of the film of oil was just like a spray of water, and that the atoms of the oil were spread out. The latter statement about the atoms being "spread out" does not appear anywhere in Fillmore's testimony as far as I can discover. He did use the word "spray," saying that the appearance of the oil was just simply a spray like a spray of water or anything, only it was oil. This mere use of the word "spray," however, is of no significance as a description of the oil in view of the further detailed description which the witness gave, from

which it clearly appears that the oil does remain in a continuous sheet until it strikes the ground. He evidently used the word "spray" as a generic term for any sort of device applying liquid to the ground.

E. F. Godso, who is also employed by the county of Los Angeles, has seen defendant's machine applying oil to the road and states that the oil comes out in a solid sheet; you cannot see through it at all. The edge of the sheets from the several nozzles all meet so that it gives a solid sheet or solid continuous application as the truck proceeds, the oil striking the ground as a sheet. [Tr. pp. 44-5.] It is true the witness also says, as appellant points out, that in putting on a very light coat of oil it is *almost* transparent, and when heavy, it is opaque; but this statement that it is "almost transparent" does not detract from his further statement that it remains a solid or continuous sheet until it strikes the ground.

George S. Benson, who is a contractor and has done a good deal of road oiling, states that in defendant's machine the oil drops down in a solid sheet and seems to spread right out on the road. [Tr. p. 45.]

James H. Kew, who had been street superintendent of the city of Inglewood for some time and in charge of street oiling there, saw defendant's machine in operation on the roads at that place, and states that the oil came down in a thin V shape, an inverted V, about six inches wide where it touched the road, and was a thin sheet of oil as it got down to the road. [Tr. p. 46.]

Earl B. Gilmore, who is a contractor for road oiling, has a machine using the same type of nozzle as defendant's machine, and has also seen defendant's machine in operation and says that the oil comes out of the nozzle in a sheet of oil. It comes down in a sheet and hits the road in a fan shape, and that as it strikes the ground it is a full eighth of an inch thick. [Tr. pp. 47-8.]

Some of the above witnesses compare the operation of defendant's machine with the appearance of the machine made by plaintiff. In his brief appellant does the same and claims that the two machines are the same in effect, basing this claim largely on the testimony of his expert Bailey, who, by the way, is not an expert on road building and does not pretend to know anything about it. Comparison of these machines is of value only to the extent that the plaintiff's machine is found to apply his process, which Brawner said it did not do. It is apparent from Benson's testimony that the defendant has changed his machine since he first made it, for Benson says that two or three years ago it had a round spray [Tr. p. 45], whereas Bailey says it is now flat. But the observations made by some of the defendant's witnesses on plaintiff's machine in operation, tend at least to show what would happen if the atomizing process were put in operation. Higley said the city of Los Angeles had to stop using it because of people's complaints; that it did not get oil on the street properly; that it brought the oil out in a vapor and the air was full of oil and people complained about it sprinkling their clothes' lines [Tr. pp. 34, 35].

Rogers said that with the first Ward machine the wind affected it and he did not get the uniform application of oil, the nozzles being fifteen to eighteen inches off the ground [Tr. p. 31].

Benson said that the oil from the Ward machine came down in a kind of a mist or vapor. [Tr. p. 45.]

Kew said that in the Ward machine the sprays were eighteen inches from the ground, and about three inches from that the oil thinned out to nothing. It was all atomized by the time it got to the macadam, and if the wind was blowing hard it left streaks on the road. With defendant's machine the oil did not blow. [Tr. pp. 46, 47.]

The foregoing testimony shows clearly that if oil is atomized there will be a cloud, fog or mist of oil attending the machine, and that it will spread through the air more or less, and if the wind blows, it will quite naturally blow the oil from the place where it should strike the road and interfere with the evenness of the oiling. It also shows clearly that defendant is concerned with getting a uniform coat of oil and does not care about atomization and that defendant's machine does not atomize the oil. It applies it in a thin sheet or film, and the oil remains in that condition from the nozzle to the road, the nozzles being set low for the very purpose of insuring that there be no interference with this sheet in its course to the road. All this is shown by the testimony of witnesses who are not interested in the defendant and who have seen the machine in use and who have knowledge of road building.

In opposition to this appellant presents his own testimony and that of an alleged expert who knows nothing of road building and oiling except what he may have learned in this case. The latter claims that the oil is atomized by defendant's machine, basing this belief on theoretical grounds. He admits that it does not have that appearance, saying the oil came out of the nozzles in a thin triangular sheet or film; and a person might have considered the oil came out in an unbroken sheet or film. [Tr. p. 24.] But he claims there is an interruption in defendant's nozzle that would break up the oil. Examination of the nozzle itself, however, shows that this interruption is merely the contracting of the round channel through which the oil is flowing into the slot from which it emerges. [Defendant's Exhibit B.] Plaintiff's nozzle, on the other hand, has a very much smaller outlet and has the sharp edge interposed in the oil channel and turned so that the oil strikes directly against it. [Defendant's Exhibit A.]

Bailey admitted that all his experiments in spraying oil had been made with the Bordeaux nozzles [Tr. p. 51], which are the same as plaintiff uses in his machine [Tomer's testimony, p. 27, Exhibit A]; hence Bailey has had no experience in the operation of such a nozzle as defendant uses, and his testimony regarding it is purely theoretical.

The plaintiff himself, while claiming that the defendant's machine atomizes the oil, said that by atom he meant a large or small particle of oil, and that oil may be atomized thin or coarse; also that the oil came

out of defendant's machine in a thin fan-shape sheet or film which broke very close to the ground, some sheets two or three inches above the ground and some closer. [Tr. p. 18.] This sheet of oil was a pretty coarse atom, but that appears to be what plaintiff considered it to be. The plaintiff further testified that the oil now in general use in road making is 90 to 95 per cent asphalt, and that you cannot make a mist of such oil, but could break it up into fairly fine particles at a high temperature. This admission is sufficient to show that the patented process cannot be applied to such oil. Fairly fine particles,—in other words, drops,—are not what the patent calls for. There must be a mist of oil. These fairly fine particles which are not fine enough to make a mist would not settle down on the road and could not penetrate the road surface and enter its porosities, so as to coat every particle of the dust, etc., as required by the patent. Such being the case, defendant could not, under present road making practice, use plaintiff's process if it so desired.

Plaintiff's witness Bailey, when called for rebuttal, said that there were three different methods of applying oil; first, a mass; second, atomizing; third, in a thin film. [Tr. p. 50.] The plaintiff's patent, by its own terms, adopts the second method here mentioned, and the defendant, by all the testimony, uses the third method. Hence the defendant is not using the essential part of plaintiff's process and is not infringing.

Appellant suggests in his brief that because the sheet of oil after leaving the slot of defendant's machine in-

creases in width, there must be a separation of the atoms or particles of oil to produce this expansion, and hence that there is atomization of the oil. If there were, it would not be such as the patent calls for and could not perform the functions of atomization in the patented process. But this argument overlooks the fact that while the sheet of oil increases in width it decreases in thickness, as most of the witnesses said, thus permitting it to remain in a solid and unbroken sheet. Appellant also claims that the sheet could be only one forty-eighth of an inch thick, and that a sheet of such thickness is impossible, but does not show why it is impossible. One forty-eighth of an inch is a substantial thickness, greater, in fact, than the thickness of a sheet of paper, to which some of the witnesses who had actually seen the oil coming from defendant's machine compared it; and yet all of them, after seeing it, took the stand and swore that it was a solid sheet of oil. Their observation ought to be better than theoretical argument drawn from the computed thickness of the sheet of oil.

Appellant further suggests that the action of the nozzles on a stream of water would illustrate their behavior with oil. But this is not correct. Particles of water have little cohesion to each other, and hence water is easily broken up. But asphaltic oil, and especially heavy oil such as defendant has used, is sticky, and, as the plaintiff testified, cannot be broken up fine. Brawner testified to the same fact when he said that the viscosity of oil is greater than that of water, and consequently it stuck together and did not spray so

much when used in the old Studebaker machine. [Tr. p. 41.] The sprinklers in this machine, it should be noted, were two feet off the ground. [Burns, Tr. p. 25.]

In this connection it may be remarked that certain photographs of defendant's machine were put in evidence and an attempt has been made to reproduce them in the record by the halftone process, but on account of the character of this process, which produces pictures through a screen criss-crossed with lines, thereby producing a large number of small dots on the picture, the effect of the original photographs is lost. It is possible to imagine on looking at these prints that there was some spray of oil coming from the nozzles, on account of the appearance of the dots above mentioned, but the original photographs show the same solid sheet effect which was testified to by the witnesses.

(b) THE DEFENDANT DOES NOT SUSPEND THE OIL IN THE AIR.

Coming now to the matter of suspension of oil in the air an appreciable time, it is clear that defendant's machine does not produce or attempt to produce that effect. It is unnecessary to take up much space on this point, as the testimony already reviewed to the effect that the oil remains in a solid sheet until it strikes the ground shows that it cannot be suspended in the air for an appreciable, or any, time. The defendant uses a pressure of twenty-five or thirty pounds on the oil and sends it out through a slot, placed six or eight inches above the surface. Under these conditions it is forcibly shot

down to the ground and there will be not the least tendency to suspend it in the air. The time of transit across the six or eight inch interval with a force of twenty-five or thirty pounds behind it would be too short to be appreciable. Nearly all the witnesses who spoke of the matter said that the oil "hits the road" or "strikes the road"—quite different from the "settling" on the road described in the patent. Even plaintiff himself said the pressure behind the oil in defendant's machine "shoots it into the voids in the road" [Tr. p. 15], and Bailey says the oil is "forced down" by defendant's machine [Tr. p. 22].

Appellant has made the suspending of the oil an appreciable time an essential part of his patent, and as defendant's machine does not do this, defendant is not infringing.

(c) THE DEFENDANT DOES NOT USE A POROUS ROAD SURFACE.

The next essential of the patent is "a porous road surface." As already shown, the plaintiff, when he used this phrase in his patent, meant dust, or at least a surface of sand, gravel or earth. With any hard surface the mixture of atomized oil and air would not work, because the road surface could not absorb the oil. Now, to what sort of surface was the defendant applying oil? Most of the witnesses who testified as to observation of its machine did not say what sort of surface it was working on. Rogers, who took the photograph Defendant's Exhibit C [Tr. p. 61], said the machine was then applying oil to a concrete pavement.

[Tr. p. 29.] Clearly this was not of a porous character. Joyner and Kew saw the machine working on a macadam road. Plaintiff testified that when he observed defendant's machine and took pictures of it they were putting oil on a rock macadam road; that the rock had been rolled down with a roller, and he does not remember seeing any dust on it. [Tr. p. 19.] (Of course the macadam road which the other witnesses saw is, by definition of the term, a rock macadam road.)

Such a road does not answer the description of a porous road surface. When plaintiff made his invention oil was being applied to ordinary dirt roads, and frequently they were plowed and harrowed to make them more porous and absorbent of oil before it was applied. It was then necessary to cultivate or tamp the road in order to mix the oil with the dust or loose soil. It was such a road that plaintiff had in mind and described in his patent, one of his objects being to avoid the necessity of so stirring the oil into the ground, by his special process of atomization, settling, permeation, etc. But nothing of this kind occurs in a rock macadam road. Such roads are being built in such great quantities at the present time that the court can take judicial notice of the process just as the court took notice of the mode of operation of an ice cream freezer in *Brown v. Piper*, 91 U. S. 37. The process is to roll the rock down and compress it as much as possible with a heavy roller, then to apply a coat of heavy asphaltic oil to the surface, then, without mixing or attempting to mix the oil with this layer of rock, to

spread over the oil a layer of sand or fine rock. Of course rock is not porous and will not absorb oil at all, and a layer of rock which has been compressed with a heavy roller does not answer the description of a porous road surface. There may be some holes or interstices between the pieces of rock, but they do not at all perform the functions of the porosities referred to in plaintiff's patent. They do not absorb the oil or allow it to penetrate or permeate the road surface or prevent the oil from making a sticky layer of asphalt on top of the road. Reference to the photograph introduced by plaintiff [Exhibit 2, Tr. p. 59] shows that the oil is all on top of the road and that none of the results claimed by plaintiff for his process were obtained in the case photographed.

Appellant seems in his brief to rest his argument for infringement on claim 1 of the patent, and that being the case, the last step in the process there described should be noted, namely; that the material of the road surface shall be agitated and partly suspended while the oil is being applied. As already shown, this is the true construction of the patent, although appellant seeks to construe it differently. It must be regarded as a material step in the process, being expressly claimed. There can be no doubt that defendant is not making use of this part of the process. The facts just mentioned show this. Defendant, according to evidence, was oiling either concrete or rock macadam, and neither of these is or can be agitated or partly suspended; hence there has been no infringement of claim 1 of the patent.

VI.

The Plaintiff's Patent was Anticipated by Ellis Tomer.

Although defendant's case is clear on the subject of infringement, the defense of anticipation requires some attention. As to the Hatfield matter, it may be conceded that this was a mere experiment and does not amount to an anticipation. But the same is not true of the Tomer process. Appellant claims that on this subject the proof was not legally sufficient, especially because no documentary evidence and no physical exhibits were introduced. But the rule is that anticipation may be established by oral evidence if it is clear and satisfactory and establishes the existence of the anticipation beyond a reasonable doubt.

1 Hopkins on Patents, p. 266;

Buser v. Novelty Co., 151 Fed. 478, 482;

Grupe Drier Co. v. Geiger etc., 215 Fed. 110,

114.

Tomer's testimony fully measures up to this rule. It is clear and satisfactory. [Tr. pp. 27, 28.] It shows that he began to use the process March 17th, 1908, nearly two years before Ward applied for his patent, and used it on a considerable scale and in a commercial way all of that year, oiling about twenty miles of streets. He used it again the next year. He used on his machine the Bordeaux nozzle, the same which plaintiff admitted he used on his first machine, a sample of which is in evidence, and the effect of which nozzle was to vaporize the oil and discharge it in a fan. He used pressure in his machines and had the nozzles about

eighteen inches off the ground, the same as in Ward's first machine, and the oil came out in a fan spray from them; when there was a wind it would blow the spray quite a ways. He applied the oil to dirt streets, and his first and main purpose was to settle the dust. Here is exactly the plaintiff's process as nearly as plaintiff himself ever succeeded in applying it. Tomer atomized the oil and it remained suspended in the air an appreciable time, at least long enough for the wind to blow it around, and it was then brought into contact with a porous road surface, and thereby a deposit of oil would be caused on each particle of road surface so as to maintain the maximum surface to air, etc., for hardening. As Tomer says, it did not take his first coat long to evaporate.

Here is the whole substance of plaintiff's invention as described by him, and it was in public use two years before he applied for a patent. He made no effort to carry his invention back beyond the date of application. There was, therefore, such an anticipation as avoids the patent.

As I said in the first place, the record does not show that this defense was properly pleaded, but no objection was made to the testimony and there was, in fact, an amended answer properly pleading it.

For all the foregoing reasons I respectfully submit that the judgment of the lower court was correct and should be affirmed.

HARTLEY SHAW,

Solicitor for Appellee.